

VU Research Portal

Mapping landscape service provision of cropland in the urban fringe

Zhou, T.; Koomen, E.; Ke, X.

published in

Global Land Project 3rd Open Science Meeting (GLPOSM16)
2016

document version

Publisher's PDF, also known as Version of record

[Link to publication in VU Research Portal](#)

citation for published version (APA)

Zhou, T., Koomen, E., & Ke, X. (2016). Mapping landscape service provision of cropland in the urban fringe: the case of Wuhan, China. In *Global Land Project 3rd Open Science Meeting (GLPOSM16): Book of Abstracts* (pp. 427)

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal ?

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

E-mail address:

vuresearchportal.ub@vu.nl

Global Land Project 3rd Open Science Meeting (GLPOSM16) – Book of Abstracts

**China National Convention Center, Beijing, China, 24-27
October 2016**

Mapping landscape service provision of cropland in the urban fringe - the case of Wuhan, China

Ting Zhou¹, Eric Koomen¹, Xinli Ke²

¹*Vrije Universiteit Amsterdam, Amsterdam, Netherlands*

²*Huazhong Agricultural University, Wuhan, China*

People benefit from cropland through food production and a variety of environmental and recreational benefits. However, the provision of the different functions offered by agricultural landscape deteriorates as a consequence of ongoing urban development, especially in urban fringe. To help define sustainable management strategies we developed and implemented a method to map characteristic patterns of current provision of these landscape services.

Field interviews were conducted in Wuhan, a rapidly urbanising Chinese city, to study the degree to which different functions are present in its urban fringe. The questionnaire was designed following the evaluative dimensions of agricultural land-use systems proposed by Gómez Sal and González García (2007) with necessary adjustment into local conditions and scale. In total, 25 land functions are distinguished, namely, productive, ecological, economic, social and cultural dimensions of its agricultural land-use systems. Based on the result of 768 farmer households, four typical patterns of land function provision were categorized using a k-means clustering approach.

The results show that: (1) social and productive functions dominate the typical agricultural land-use patterns that were distinguished; (2) the values of cultural functions remain low in all locations, suggesting the potential of promoting the cultural assets of the area; and (3) the synergy between provision and regulation functions performs differently at different locations while only 17% of the total sample shows relatively high-level synergy.

The presentation will demonstrate the typical provision patterns of ecosystem services of cropland in the urban fringe of Wuhan and discuss its potential implications for land planners and managers.